

**REMARKS**

At the outset, the Examiner is thanked for the thorough review and consideration of the subject application. The Office Action of August 20, 2004 has been received and its contents carefully reviewed.

Claims 1-13 are pending in the current application.

Applicants submits a marked-up version of Figure 5A showing the changes made to the Figure to clarify the features of the claim. No new matter has been added. The Examiner is respectfully requested to approve these drawing changes.

The Examiner rejects claims 1-13 under 35 U.S.C § 112, first paragraph. Applicant amends claim 1 to clearly recite the features of Applicant's invention. Accordingly, the Examiner is respectfully requested to withdraw this rejection.

Claims 1-2 and 11 are rejected under 35 U.S.C §103(a) as being unpatentable over U.S. Patent 5,705,230 to Matanabe et al. in combination with U.S. Patent 5,891,804 to Havemann et al. Claims 7-5, 7, 8 and 10 are rejected under 35 U.S.C §103(a) as being unpatentable over Matanabe and Havemann in further view of U.S. Patent 5,364,459 to Senda. Claims 3, 6, and 9 are rejected under 35 U.S.C §103(a) as being unpatentable over Matanabe, Havemann, Senda and in further view of U.S. Patent 6,284,652 to Charneski et al. and U.S. Patent 3,632,435 to Eriksson.

The rejection of claims 1-13 is respectfully traversed and reconsideration is requested. Claims 1-13 are allowable over the cited references in that each of these claims recites a combination of elements including, for example, "depositing a second metal on the substrate, a height of the second metal being smaller than a depth of the groove, a side portion of the photoresist pattern being exposed between the substrate and the second metal" (claim 1). None of the cited references including Matanabe, Havemann, Senda, Charneski, and Eriksson, singly or in combination, teaches or suggests at least this feature of the claimed invention.

The Examiner acknowledges that Matanabe does not disclose or suggest forming the photoresist, the etching, or forming the second metal, and cites Havemann as teaching this

Amdt. dated November 22, 2004 (November 20, 2004 is a Saturday)

Reply to Non-Final Office Action dated August 20, 2004

element. Applicant respectfully disagrees. Havemann does not supply this deficiency of Matanabe. The structure of claim 1 of the present invention is different from the Havemann structure in that Havemann discloses "FIG. 2B shows the structure after patterning of the photoresist and etching of the sacrificial layer 32 and the enter level 30. A via encapsulation 36 (e.g., chemical vapor deposited titanium nitride) has been deposited, and a via selective deposition initiator 36 has been added by physical vapor deposition (e.g., vacuum deposited palladium or platinum) to produce the configuration of FIG. 2B. Stripping of the photoresist 34 rejects the top portion of the encapsulation material 36 and the via selective deposition initiator 38 to produce the structure of FIG. 2C" (Havemann, column 4, lines 7-17). Havemann does not disclose that "a side portion of the photoresist pattern being exposed between the substrate and the second metal" as recited in claim 1. In fact, FIGs. 2B and 2C of Havemann clearly show that no side portion of the photoresist pattern is exposed.

The Examiner does not suggest that Senda, Charneski, or Eriksson disclose or suggest this element recited in claim 1, and Applicant submits that they do not so disclose. Accordingly, Applicant respectfully submits that claim 1 and claims 2-13, which depend from claim 1, are allowable over the cited references.

Applicant believes the foregoing amendments place the application in condition for allowance and early, favorable action is respectfully solicited. Should the Examiner deem that a telephone conference would further the prosecution of this application, the Examiner is invited to call the undersigned attorney at (202) 496-7500.

Application No.: 09/709,483

8

Docket No.: 8733.307.00-US


Amdt. dated November 22, 2004 (November 20, 2004 is a Saturday)

Reply to Non-Final Office Action dated August 20, 2004

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. § 1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to Deposit Account No. 50-0911. A duplicate copy of this sheet is enclosed.

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Respectfully submitted,

By 

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Application No.: 09/709,483

5

Docket No.: 8733.307.00-US

Amdt. dated November 22, 2004 (November 20, 2004 is a Saturday)

Reply to Non-Final Office Action dated August 20, 2004

### **AMENDMENTS TO THE DRAWINGS**

The attached sheet(s) of drawings includes changes to Fig 5. This sheet, replaces the original sheet including Fig. 5. The following changes have been made to Fig. 5.

Attachment:        Annotated sheet showing changes